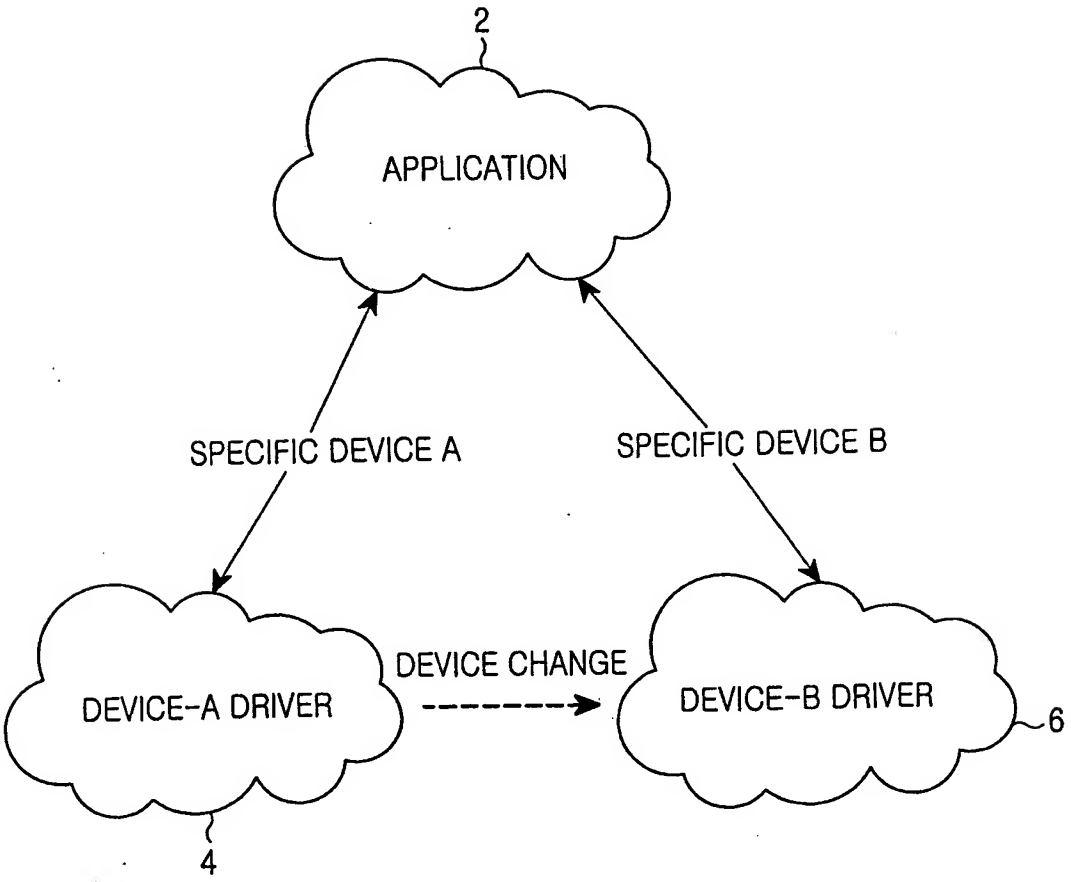
2
APPLICATION
SPECIFIC DEVICE A
SPECIFIC DEVICE B
DEVICE-A DRIVER
DEVICE CHANGE
DEVICE-B DRIVER
6
4

FIG.1

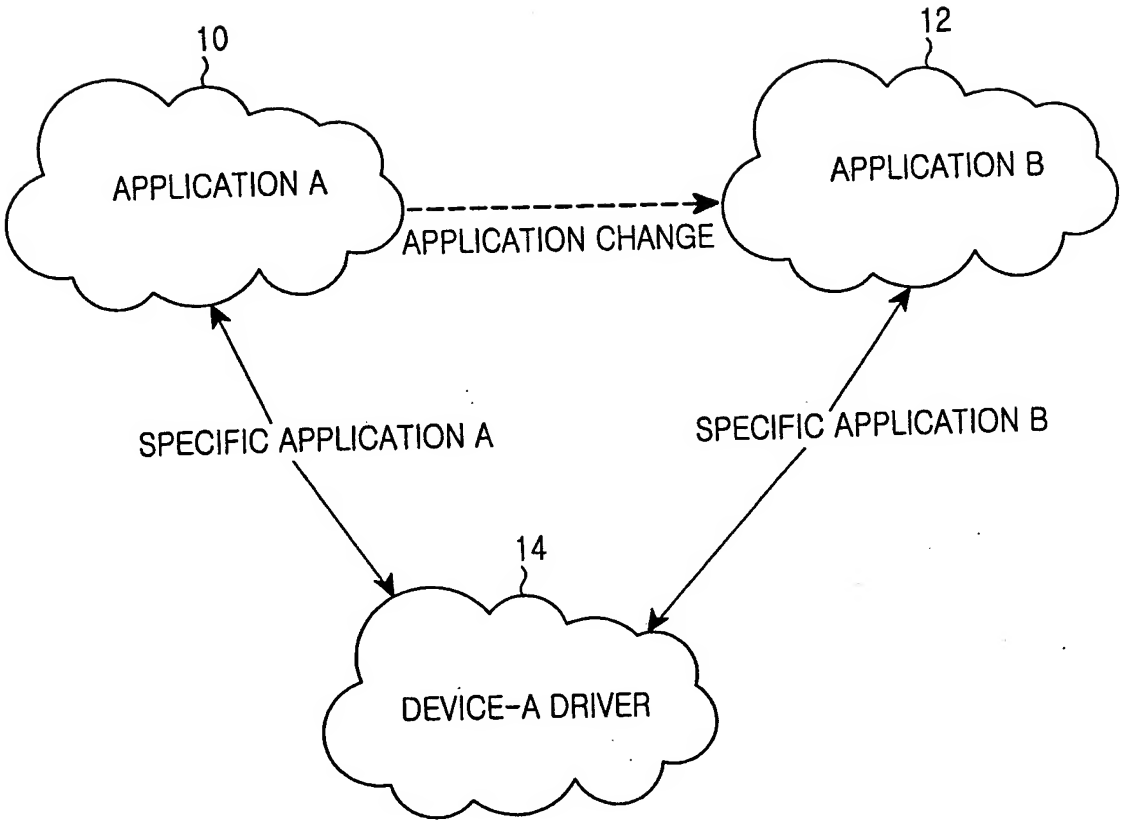
10
12
APPLICATION A
APPLICATION B
APPLICATION CHANGE
SPECIFIC APPLICATION A
SPECIFIC APPLICATION B
14
DEVICE-A DRIVER

FIG.2

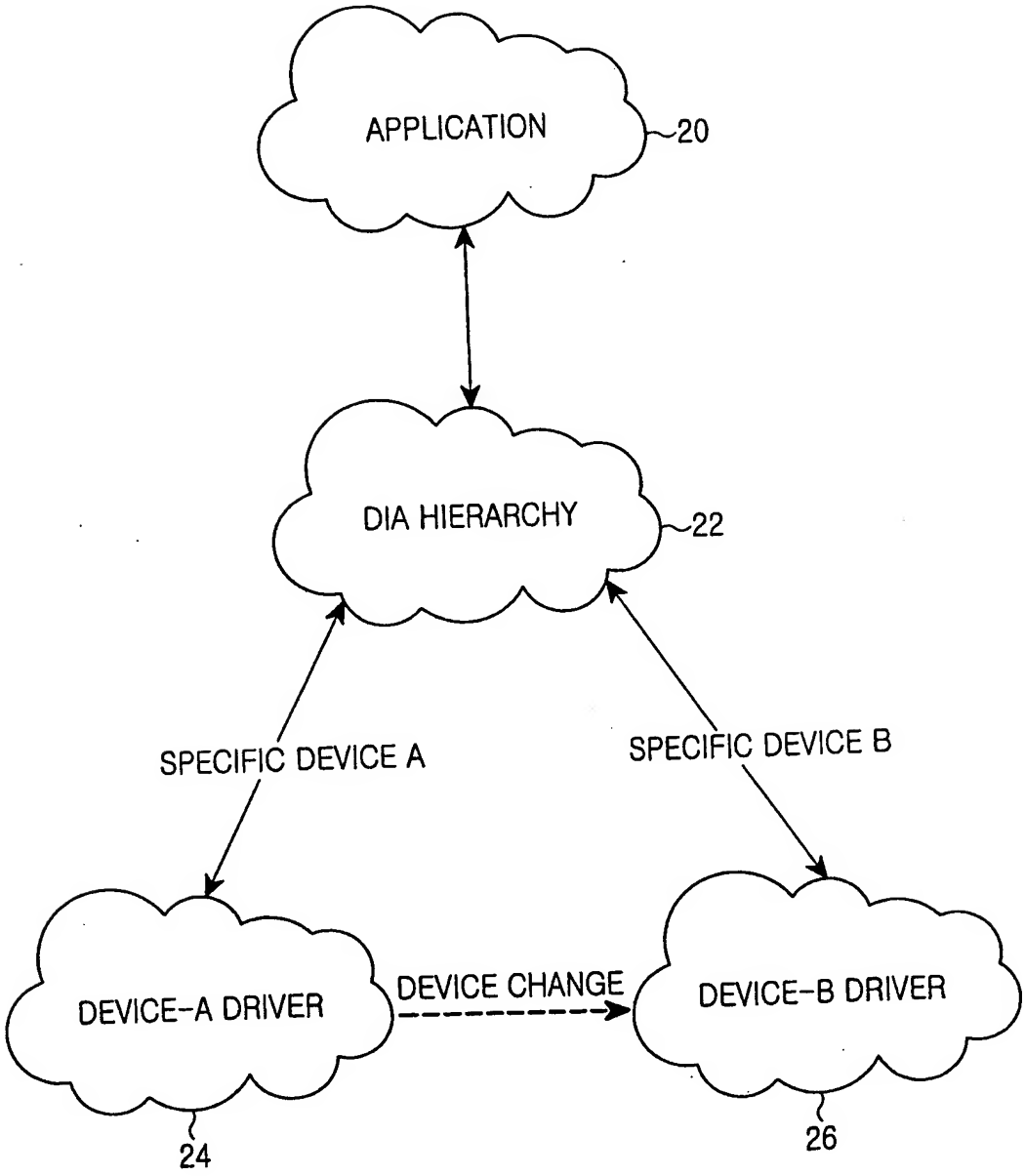
APPLICATION
20
DIA HIERARCHY
22
SPECIFIC DEVICE A
SPECIFIC DEVICE B
DEVICE-A DRIVER
DEVICE CHANGE
DEVICE-B DRIVER
24
26

FIG.3

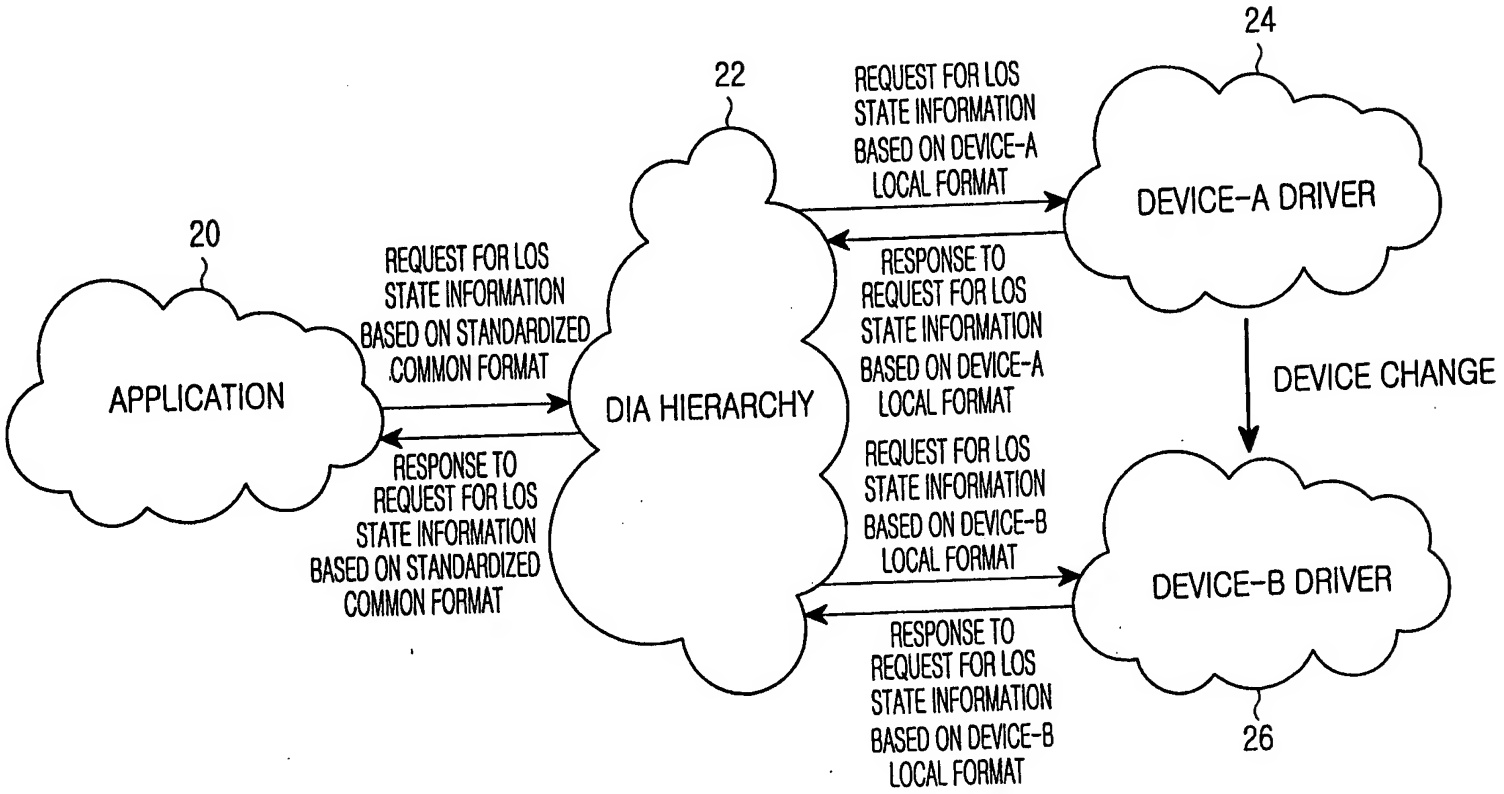
20
APPLICATION
22
DIA HIERARCHY
24
DEVICE-A DRIVER
26
DEVICE-B DRIVER
DEVICE CHANGE
REQUEST FOR LOS STATE INFORMATION BASED ON STANDARDIZED COMMON FORMAT
RESPONSE TO REQUEST FOR LOS STATE INFORMATION BASED ON STANDARDIZED COMMON FORMAT
REQUEST FOR LOS STATE INFORMATION BASED ON DEVICE-A LOCAL FORMAT
RESPONSE TO REQUEST FOR LOS STATE INFORMATION BASED ON DEVICE-A LOCAL FORMAT
REQUEST FOR LOS STATE INFORMATION BASED ON DEVICE-B LOCAL FORMAT
RESPONSE TO REQUEST FOR LOS STATE INFORMATION BASED ON DEVICE-B LOCAL FORMAT

FIG.4

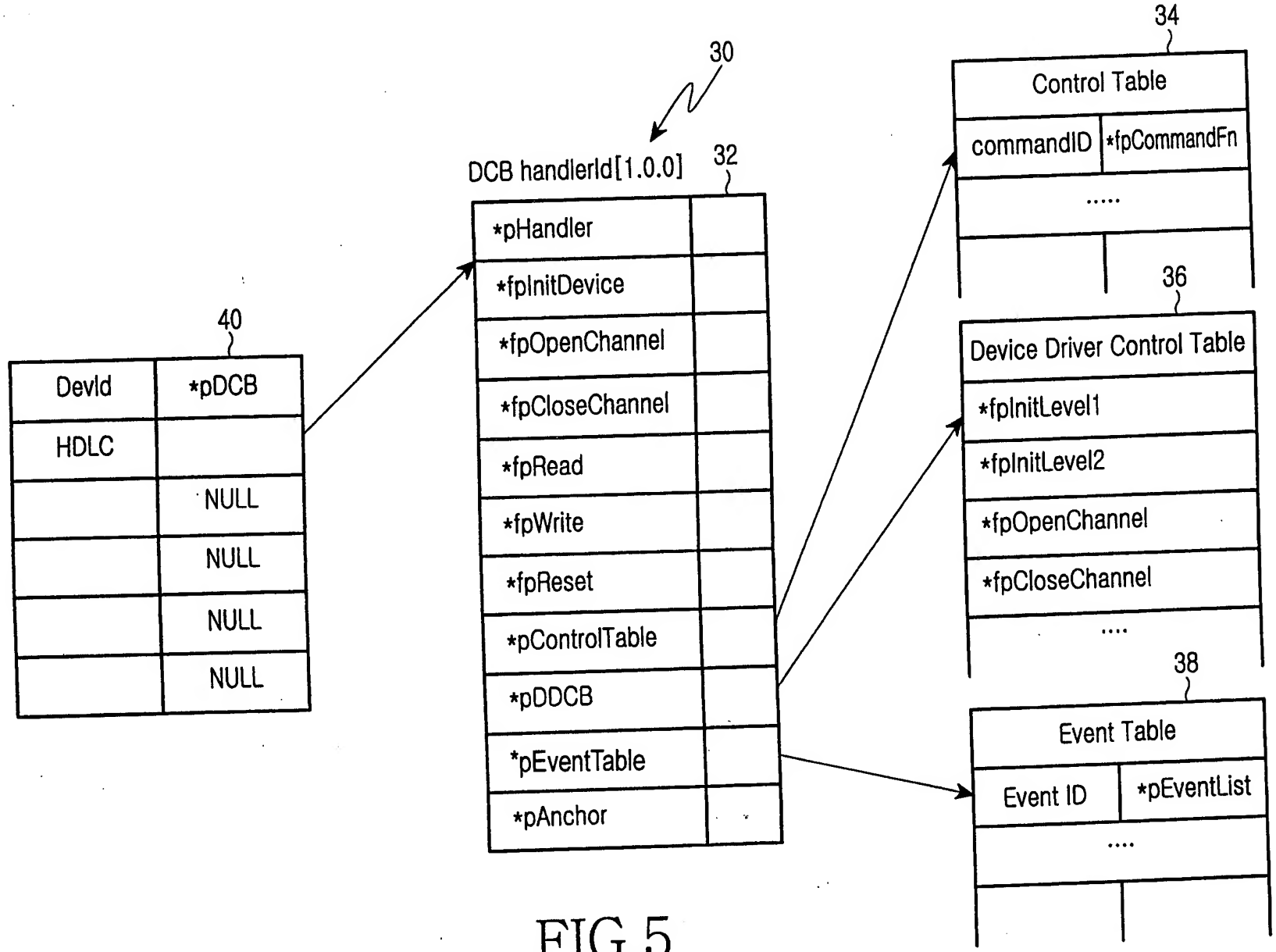
40
DevId
*pDCB
HDLC
NULL
NULL
NULL
NULL
30
DCB handlerId[1.0.0]
32
*pHandler
*fpInitDevice
*fpOpenChannel
*fpCloseChannel
*fpRead
*fpWrite
*fpReset
*pControlTable
*pDDCB
*pEventTable
*pAnchor
34
Control Table
commandID
*fpCommandFn
.....
36
Device Driver Control Table
*fpInitLevel1
*fpInitLevel2
*fpOpenChannel
*fpCloseChannel
....
38
Event Table
Event ID
*pEventList
....

FIG.5

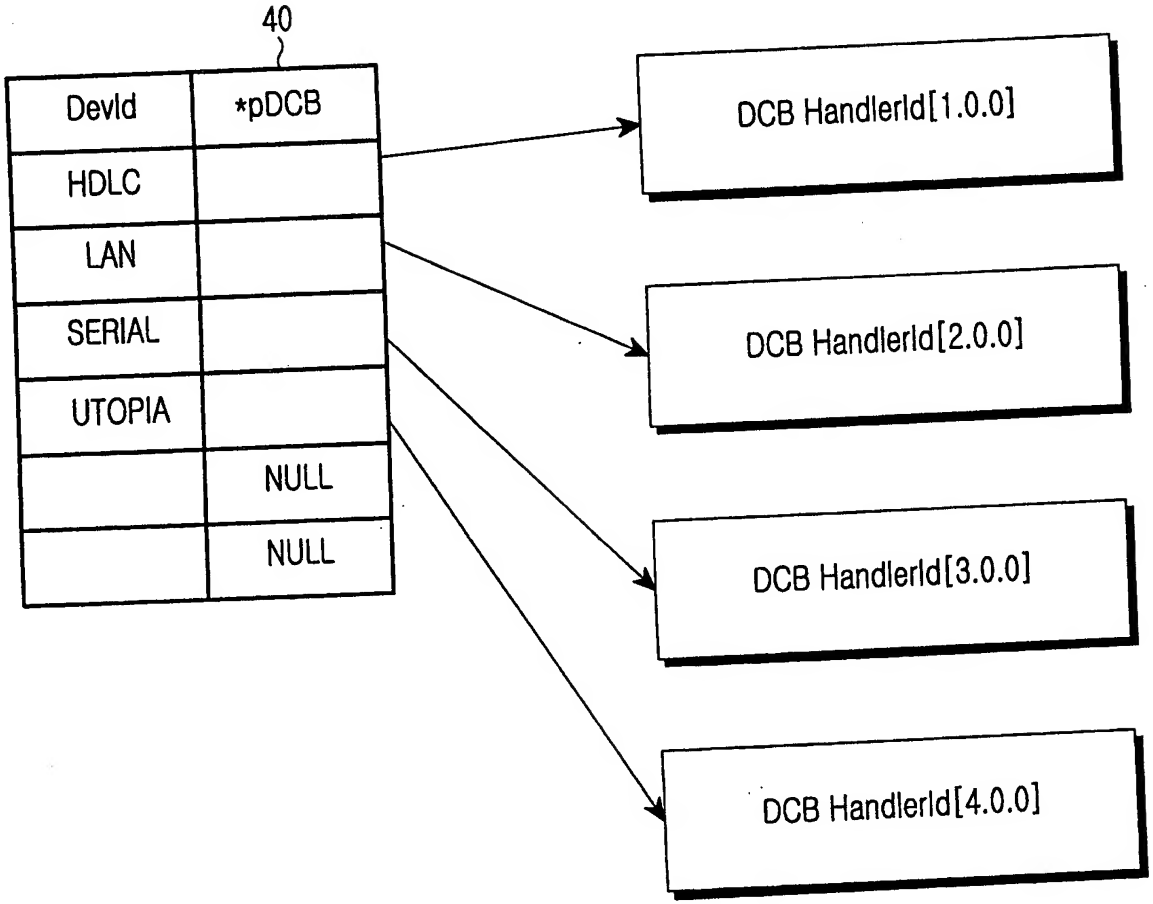
40
DevId
*pDCB
HDLC
LAN
SERIAL
UTOPIA
NULL
NULL
DCB HandlerId[1.0.0]
DCB HandlerId[2.0.0]
DCB HandlerId[3.0.0]
DCB HandlerId[4.0.0]

FIG.6

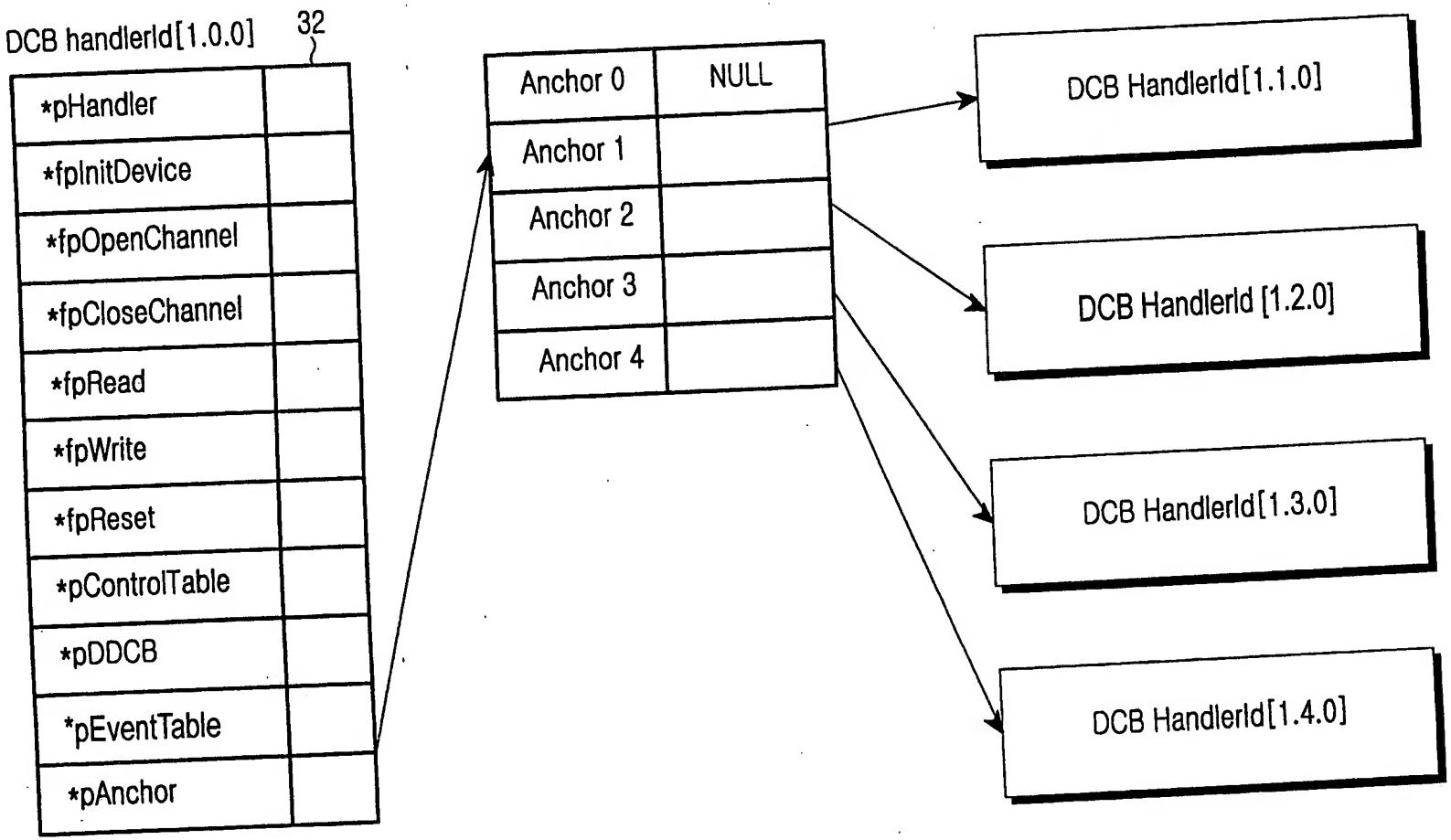
DCB handlerId[1.0.0]
32
*pHandler
*fpInitDevice
*fpOpenChannel
*fpCloseChannel
*fpRead
*fpWrite
*fpReset
*pControlTable
*pDDCB
*pEventTable
*pAnchor
Anchor 0
NULL
Anchor 1
Anchor 2
Anchor 3
Anchor 4
DCB HandlerId[1.1.0]
DCB HandlerId [1.2.0]
DCB HandlerId[1.3.0]
DCB HandlerId[1.4.0]

FIG.7

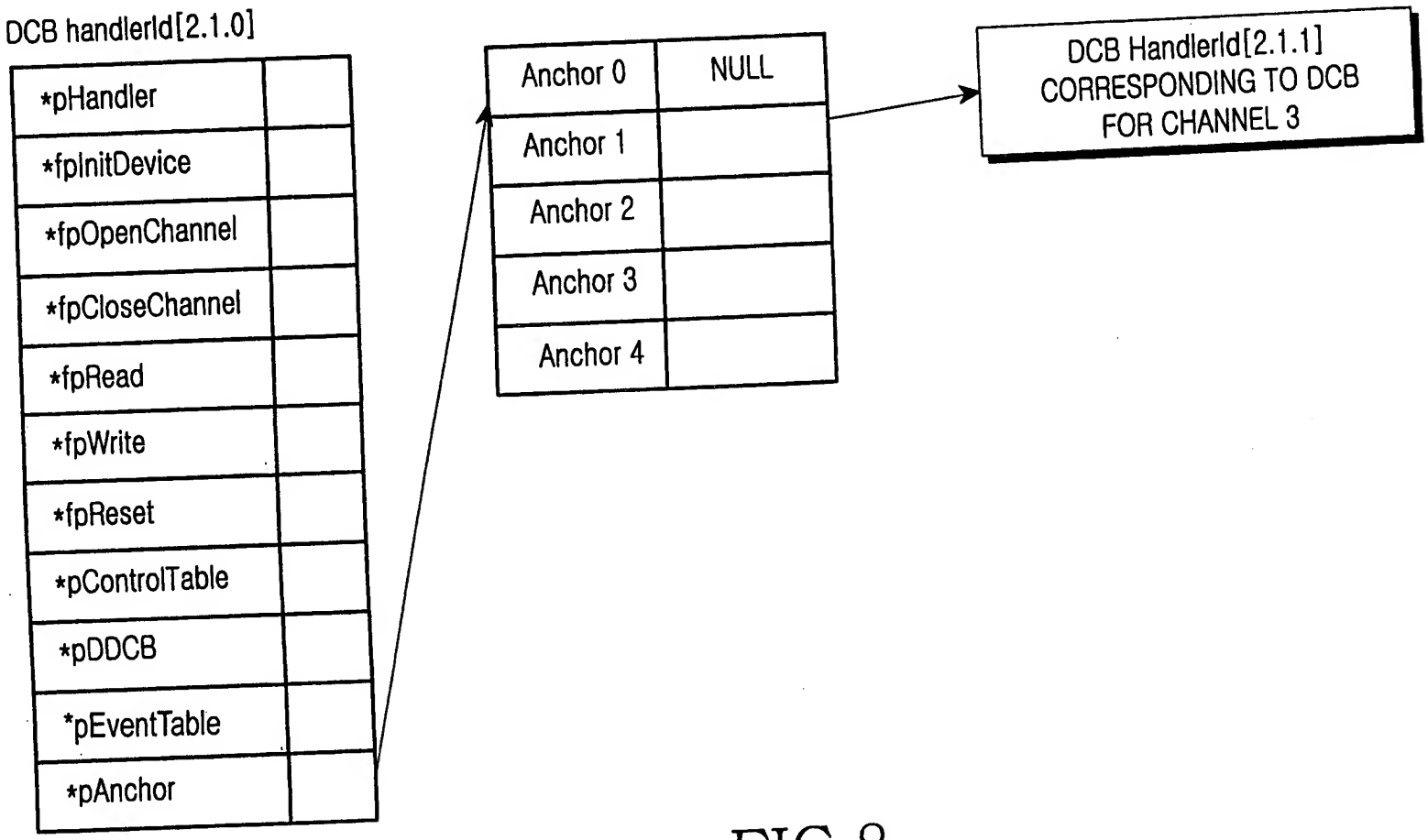
DCB handlerId[2.1.0]
*pHandler
*fpInitDevice
*fpOpenChannel
*fpCloseChannel
*fpRead
*fpWrite
*fpReset
*pControlTable
*pDDCB
*pEventTable
*pAnchor
Anchor 0
NULL
Anchor 1
Anchor 2
Anchor 3
Anchor 4
DCB HandlerId[2.1.1]
CORRESPONDING TO DCB
FOR CHANNEL 3

FIG.8

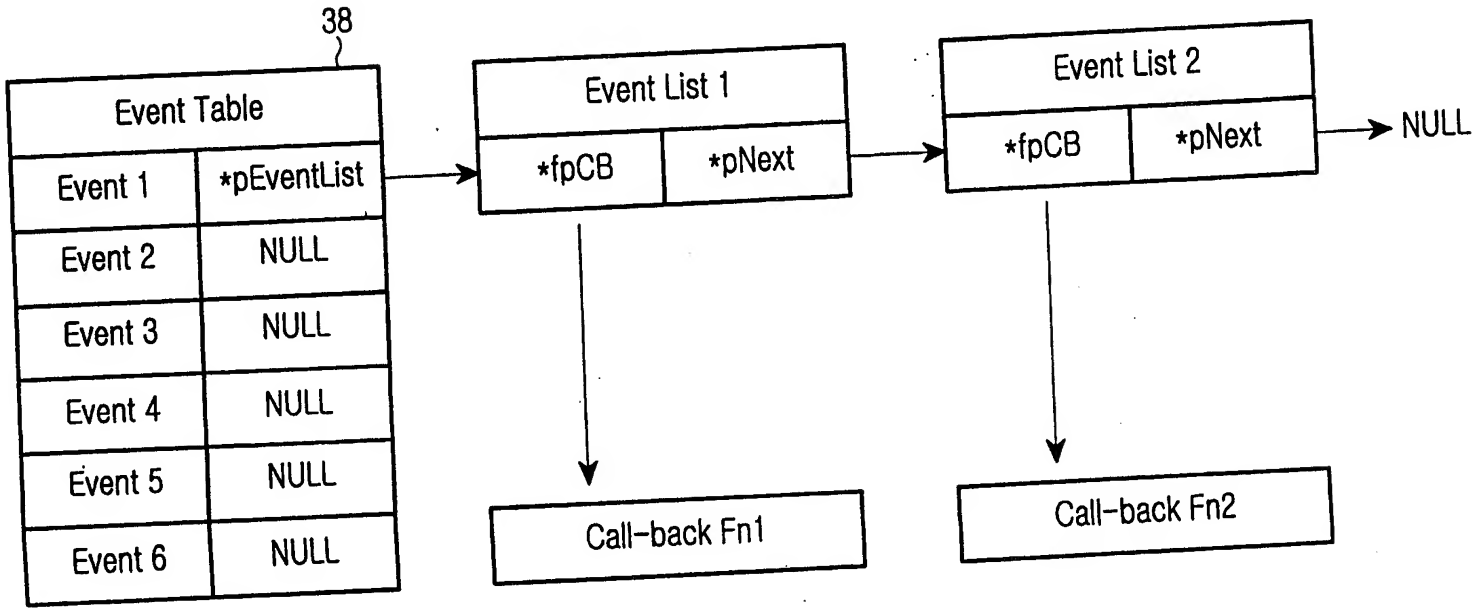
38
Event Table
Event 1
*pEventList
Event 2
NULL
Event 3
NULL
Event 4
NULL
Event 5
NULL
Event 6
NULL
Event List 1
*fpCB
*pNext
Event List 2
*fpCB
*pNext
NULL
Call-back Fn1
Call-back Fn2

FIG.9

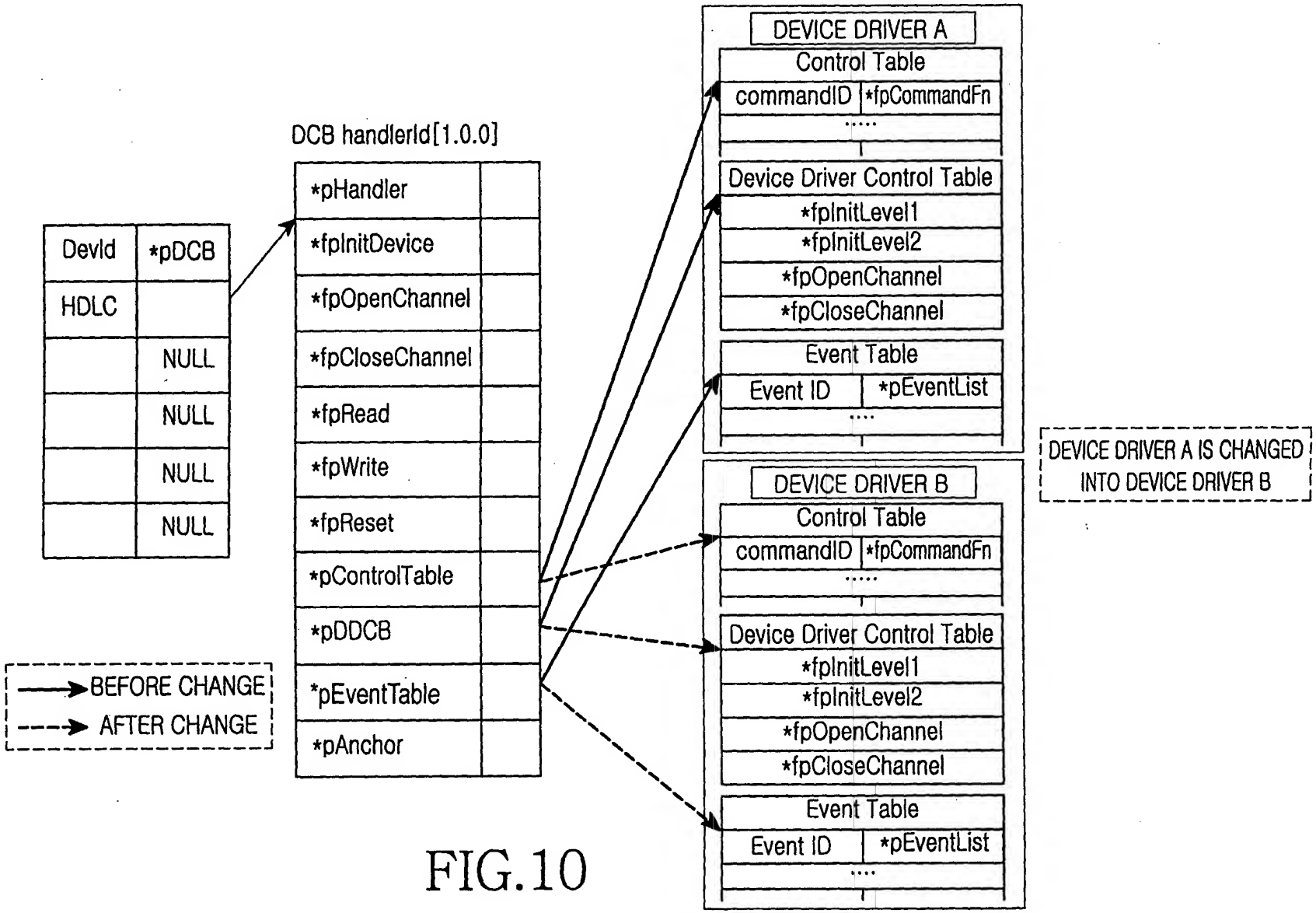
DCB handlerId[1.0.0]
DevId
*pDCB
HDLC
NULL
NULL
NULL
NULL
*pHandler
*fpInitDevice
*fpOpenChannel
*fpCloseChannel
*fpRead
*fpWrite
*fpReset
*pControlTable
*pDDCB
*pEventTable
*pAnchor
BEFORE CHANGE
AFTER CHANGE
DEVICE DRIVER A
Control Table
commandID
*fpCommandFn
Device Driver Control Table
*fpInitLevel1
*fpInitLevel2
*fpOpenChannel
*fpCloseChannel
Event Table
Event ID
*pEventList
DEVICE DRIVER B
Control Table
commandID
*fpCommandFn
Device Driver Control Table
*fpInitLevel1
*fpInitLevel2
*fpOpenChannel
*fpCloseChannel
Event Table
Event ID
*pEventList
DEVICE DRIVER A IS CHANGED INTO DEVICE DRIVER B

FIG.10

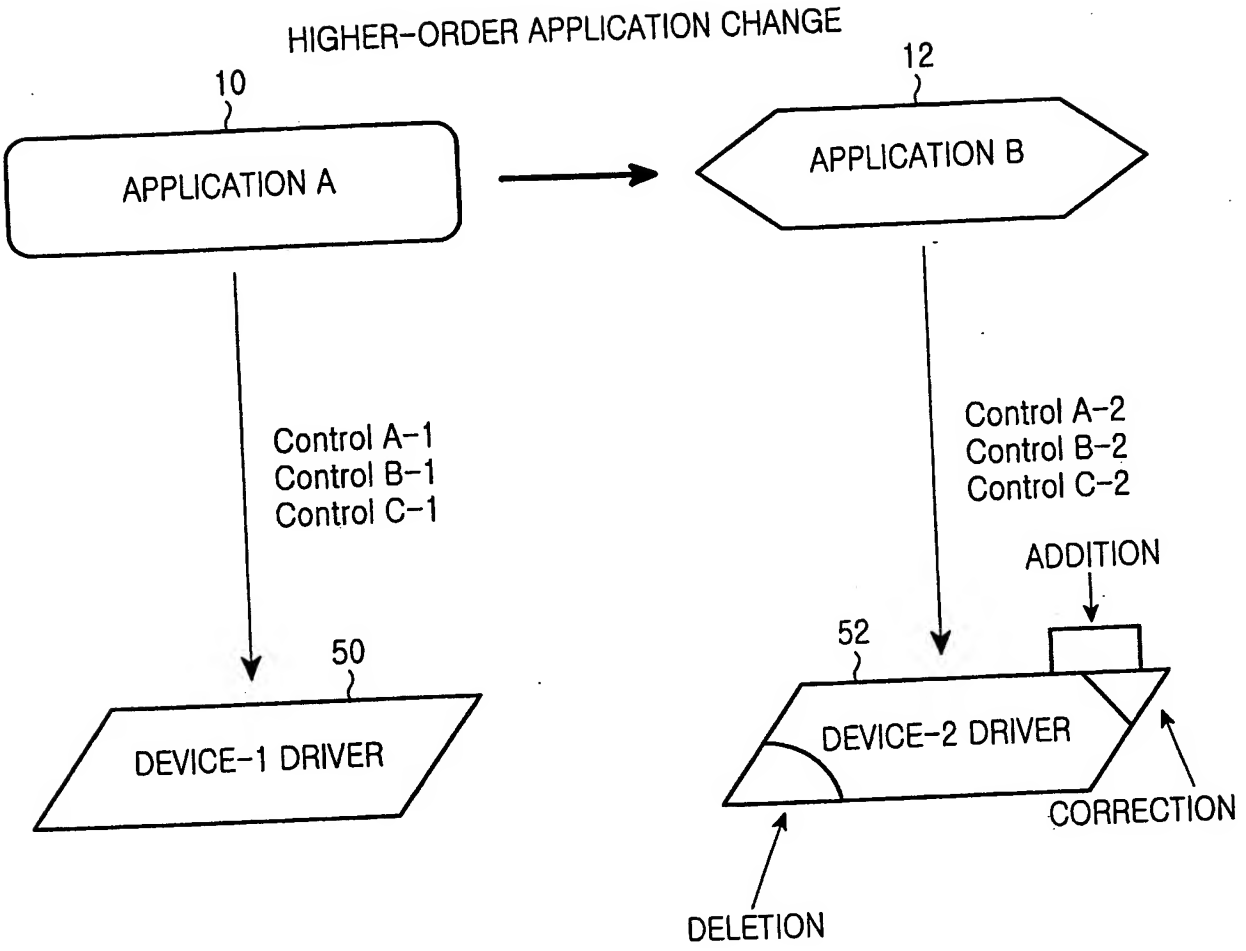
HIGHER-ORDER APPLICATION CHANGE
10
APPLICATION A
12
APPLICATION B
Control A-1
Control B-1
Control C-1
Control A-2
Control B-2
Control C-2
ADDITION
50
DEVICE-1 DRIVER
52
DEVICE-2 DRIVER
CORRECTION
DELETION
*PART RELATING DELETION,
CORRECTION OR ADDITION SHOULD BE VERIFIED.

FIG.11

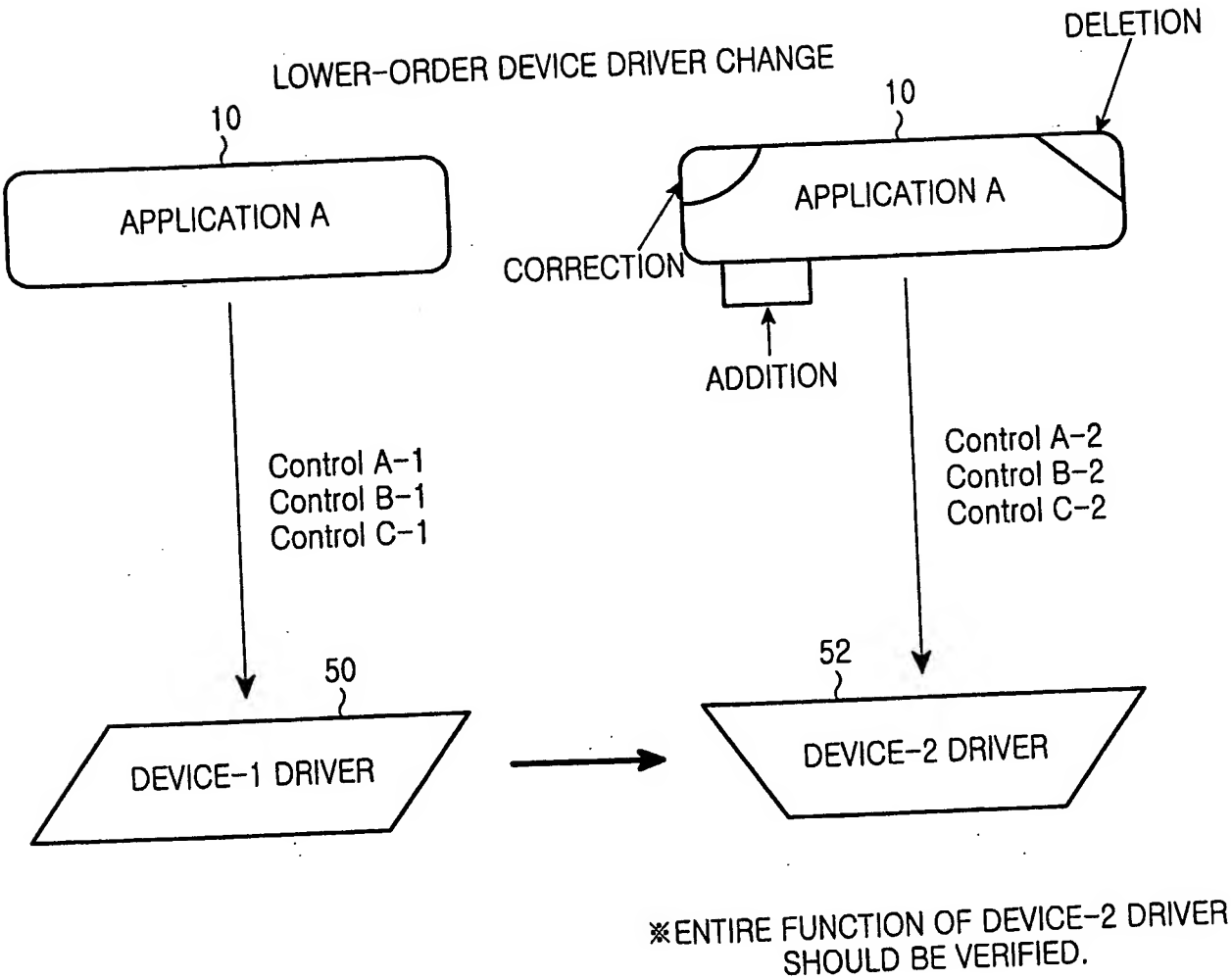
LOWER-ORDER DEVICE DRIVER CHANGE
10
APPLICATION A
Control A-1
Control B-1
Control C-1
50
DEVICE-1 DRIVER
10
APPLICATION A
DELETION
CORRECTION
ADDITION
Control A-2
Control B-2
Control C-2
52
DEVICE-2 DRIVER
※ENTIRE FUNCTION OF DEVICE-2 DRIVER SHOULD BE VERIFIED.

FIG.12

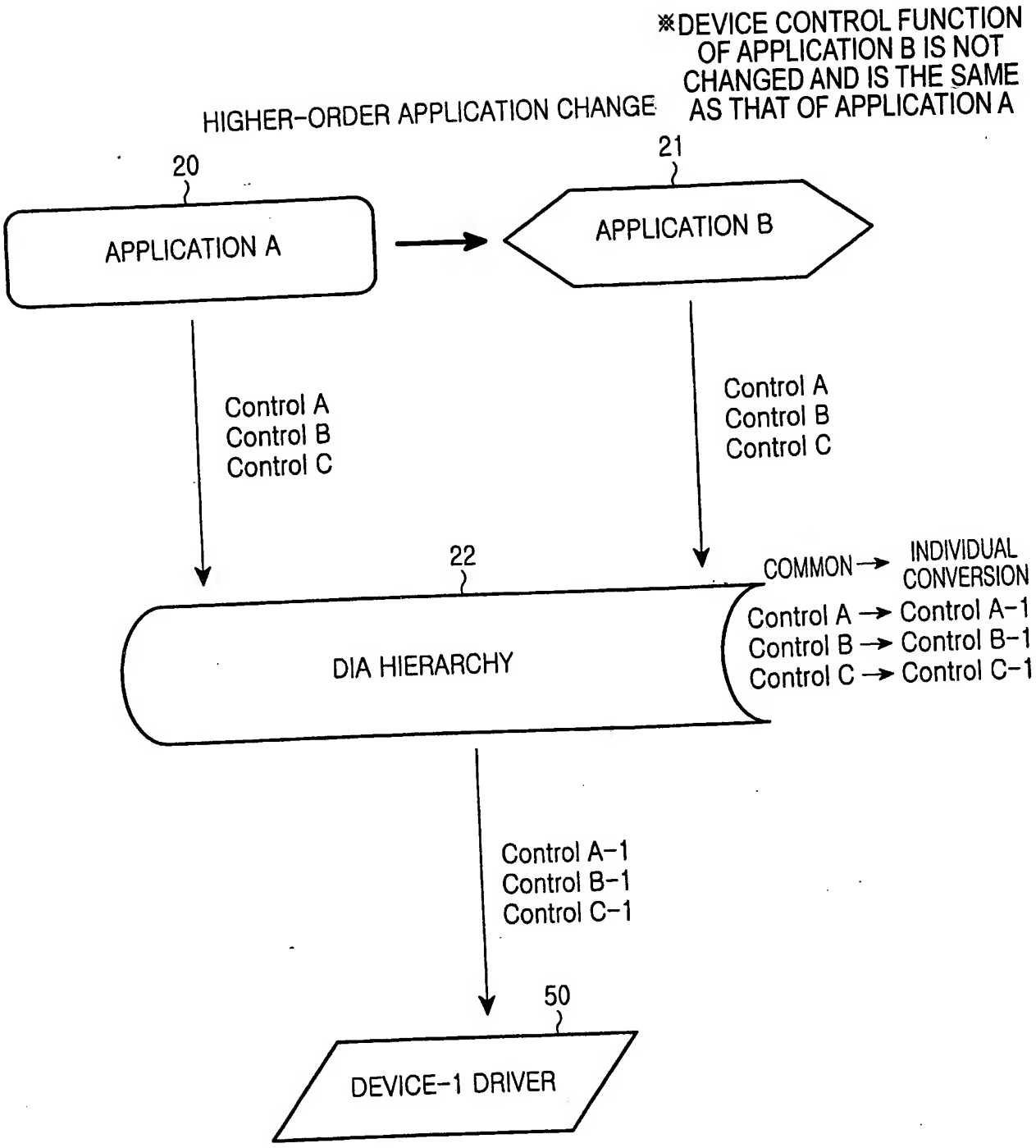
※DEVICE CONTROL FUNCTION OF APPLICATION B IS NOT CHANGED AND IS THE SAME AS THAT OF APPLICATION A
HIGHER-ORDER APPLICATION CHANGE
20
21
APPLICATION A
APPLICATION B
Control A
Control B
Control C
Control A
Control B
Control C
22
COMMON → INDIVIDUAL CONVERSION
Control A → Control A-1
Control B → Control B-1
Control C → Control C-1
DIA HIERARCHY
Control A-1
Control B-1
Control C-1
50
DEVICE-1 DRIVER

FIG.13

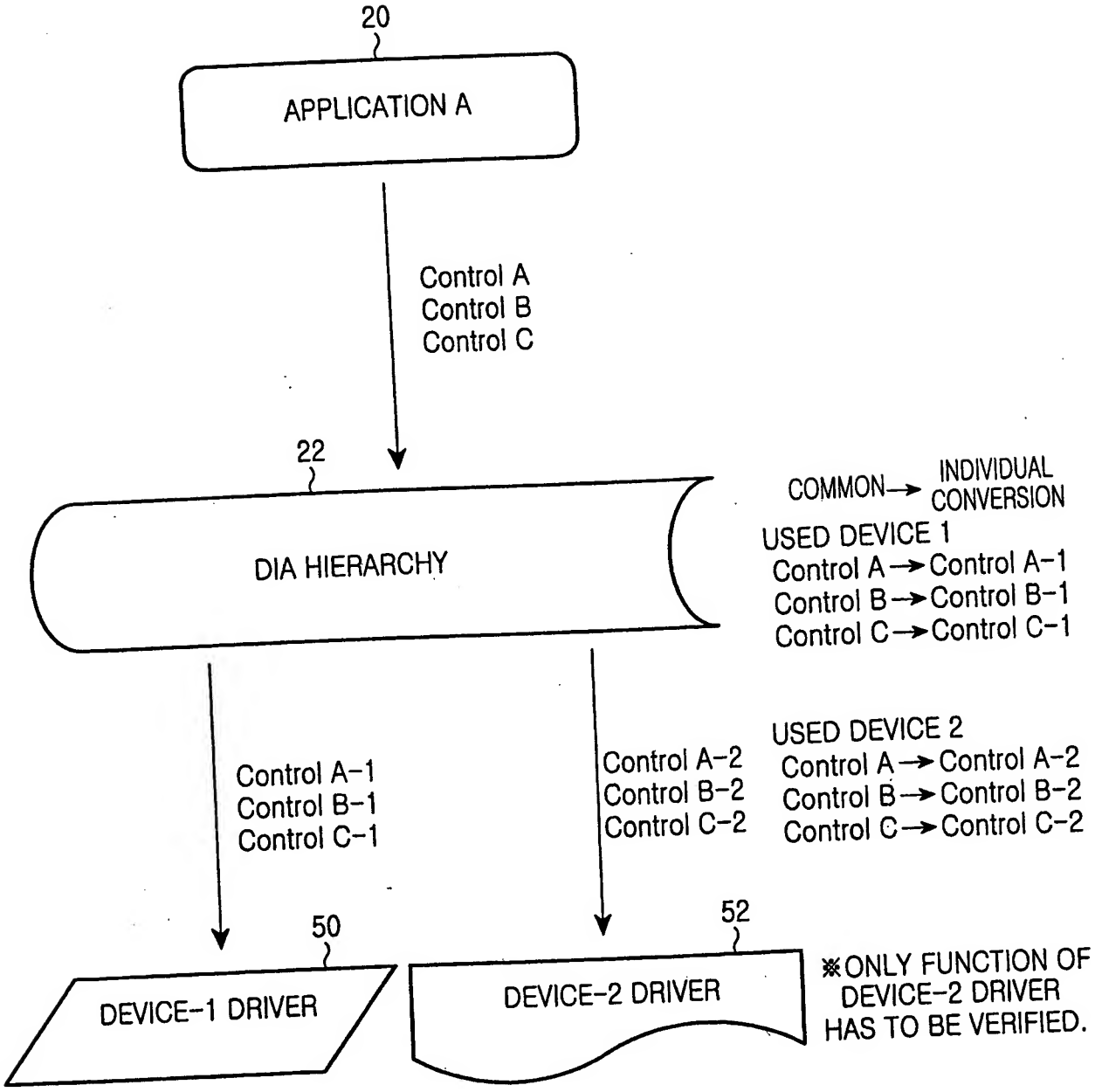
20
APPLICATION A
Control A
Control B
Control C
22
DIA HIERARCHY
COMMON→ INDIVIDUAL CONVERSION
USED DEVICE 1
Control A→Control A-1
Control B→Control B-1
Control C→Control C-1
Control A-1
Control B-1
Control C-1
Control A-2
Control B-2
Control C-2
USED DEVICE 2
Control A→Control A-2
Control B→Control B-2
Control C→Control C-2
50
52
DEVICE-1 DRIVER
DEVICE-2 DRIVER
※ONLY FUNCTION OF DEVICE-2 DRIVER HAS TO BE VERIFIED.

FIG.14